

Attorney Docket No.: 071469-0308546

Client Reference: RAJ-010

IN THE DRAWINGS:

Submitted herewith is attached a Replacement Sheet of one drawing that is intended to replace the corresponding originally-filed sheet. In Fig. 2, the designation "100" has been changed to --110-- for the process chamber.

Attachment: One (1) Replacement Sheet (Figure 2).

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REMARKS

Claims 1, 18, and 20 are amended hereby. No claims are canceled or newly added. Accordingly, after entry of this Amendment, claims 1-42 will remain pending. Since claims 21-42 have been withdrawn from consideration, claims 1-20 remain under active examination.

In the Office Action dated October 30, 2006, the Examiner acknowledged the Applicant's election of claims 1-20, with traverse. The Applicant affirms that this election was made. The Applicant also acknowledges that claims 21-42 have been withdrawn from further consideration.

In the Office Action, the Examiner objected to the drawings. Specifically, the Examiner stated that the drawings use "100" to designate the process chamber. In response, the Applicant respectfully submits a replacement for Fig. 2, which appears to be the only sheet of the drawings that contains this error. Accordingly, the Applicant respectfully requests that the Examiner withdraw the objection to the drawings.

In the Office Action, the Examiner rejected claims 1-5, 7, 9-11, 14, and 17-20 under 35 U.S.C. § 102(b) as being anticipated by Dessaux et al. (U.S. Patent No. 5,236,747). Claims 6, 8, 12-13, and 15-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Dessaux et al. The Applicant respectfully disagrees with both rejections and, therefore, respectfully traverses the same.

The Applicant respectfully submits that claims 1-20 are patentably distinguishable over Dessaux et al. because the claims recite a method of forming a metal layer on a substrate that combines a number of features including, among them, forming a plasma in a process chamber containing a substrate, exposing the pre-treated substrate to a process gas containing a metal-carbonyl precursor in the absence of a plasma, and forming a metal layer on the pre-treated substrate by decomposition of the metal-carbonyl precursor in a chemical vapor deposition process (claim 1), or forming a plasma in a process chamber containing a substrate, exposing the pre-treated substrate to a process gas containing a $W(CO)_6$ precursor in the absence of a plasma, and forming a tungsten layer on the pre-treated substrate by thermal decomposition of the $W(CO)_6$ precursor in a thermal chemical vapor deposition process (claim 20). Dessaux et al. does not describe or suggest at least this combination of features. Accordingly, the Applicant respectfully submits that the rejections be withdrawn in favor of an indication of allowability.

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Dessaux et al. describes a process for metallizing a surface of a workpiece 15 placed into an enclosure 7. (Dessaux et al. at col. 2, lines 64-65.) A plasmagentic gas, which can be nitrogen or argon, is taken from a source 5 and enters the plasma tube 3 by way of a line 13. (Dessaux et al. at col. 3, lines 22-26.) An injection line 8 for metal carbonyl gas is disposed on the side of the enclosure 7 and is connected to the supply source 6. (Dessaux et al. at col. 3, lines 55-57.) The process described by Dessaux et al. requires the injection of a plasma (a cold plasma) formed prior to introduction into the chamber followed by introduction of the metal carbonyl compound into the cold plasma to metallize the surface of the workpiece 15. (Sec. e.g., Dessaux et al. at col. 5, line 62, through col. 6, line 18.)

As is immediately apparent, the plasma is formed prior to introduction of the plasma into the chamber 7. Also, the metallization occurs in the plasma environment. Both of these aspects of the process described by Dessaux et al. differ considerably from the method as recited by claims 1-20.

Turning now to the rejection under 35 U.S.C. § 102(b), the Applicant respectfully submits that Dessaux et al. does not describe forming a plasma in a process chamber containing a substrate nor does it describe exposing the pre-treated substrate to a process gas in the absence of a plasma. As a result, Dessaux et al. does not describe at least two of the features recited by claims 1-20. Accordingly, the reference does not describe each and every feature recited by the claims and, therefore, cannot be relied upon to anticipate any of claims 1-20.

With respect to the rejection under 35 U.S.C. § 103(a), the Applicant respectfully submits that Dessaux et al. describes a process that is so fundamentally different from that recited by claims 1-20 that it cannot form a basis for rejecting claims 1-20 as obvious. As noted above, the reference does not describe forming a plasma in a process chamber containing a substrate nor does it describe exposing the pre-treated substrate to a process gas in the absence of a plasma. Without at least these features, a *prima facie* case of obviousness cannot be sustained. Accordingly, the Applicant respectfully requests that the rejection under 35 U.S.C. § 103(a) be withdrawn.

Each of the rejections having been addressed, the Applicant respectfully requests that the rejections be withdrawn so that claims 1-20 may be passed to allowance.

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Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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